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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,152

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BRIARCLIFF MANOR, NY 10510

EXAMINER

KOYAMA, KUMIKO C

ART UNIT

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2887

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,152	Applicant(s) TUYLS ET AL.	
	Examiner KUMIKO C. KOYAMA	Art Unit 2887	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it includes reference numbers.

Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: The specification is missing headings for each section.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 8, 9 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolash et al (US 4,983,817).

Re claims 1, 6 and 16: Dolash discloses that phosphorescent inks have been used in bar codes by the British Post Office .sup.4 based on the melamine-formaldehyde system. When pre-excited by a suitable light source (250 nm to 430 nm), such dyes produce a bright yellow/green afterglow from phosphorescent emission (400 nm to 600 nm) with peak emission around 500 nm that is sustained for one to several hundred milliseconds, with gradually decreasing intensity with time. By scanning and measurement of the phosphorescent emission from the bar code after

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appropriate time delay after the excitation light has been turned off, the background fluorescent emission from whiteners in the envelope is minimized, providing high contrast of the bar and space signals (col 10, line 65-col 11, line 10). The envelope having the phosphorescent ink is an optical scattering medium for being challenged by a light beam (the light source having 250 nm to 430 nm) and for scattering the light beam (phosphorescent emission 400nm to 600nm). The phosphorescent ink is a light absorbing mean for reducing the intensity of the light beam so that integration time for obtaining a response signal by integrating the light beam scattered is extended.

Re claim 8: Dolash discloses phosphorescent dye, which is a light modulator.

Re claim 9: Dolash that when pre-excited by a suitable light source (250 nm to 430 nm), such dyes produce a bright yellow/green afterglow from phosphorescent emission (400 nm to 600 nm) with peak emission around 500 nm that is sustained for one to several hundred milliseconds, with gradually decreasing intensity with time. One to several hundred milliseconds is larger than 1 ms.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Toye et al (US 3,836,754). The teachings of Dolash have been discussed above.

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Dolash fails to teach a gray filter.

Toye discloses that in place of colors, gray filters of various light transmissivities may be used (col 4, lines 40-41).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Toye to the teachings of Dolash such that, in case a highly reflective phosphorous material is used for the envelope or the medium, an alternative means, such as gray filters can be used to differentiate the intensity of the reflection between the marking and the medium.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Sullivan et al (US 5,510,163). The teachings of Dolash have been discussed above.

Dolash fails to teach a phase change layer.

Sullivan discloses a phase change medium, where the recording coating has at least one-phase change layer having a crystal state that can be changed by a laser beam, the change can be irreversible for a write-once medium and reversible for an erasable medium (col 4, lines 37-43).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Sullivan to the teachings of Dolash such that such that unique identifiable marking can be made to distinguish the information carrier from another.

8. Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Mays, Jr (US Patent Application Publication No. 2002/0089709). The teachings of Dolash have been discussed above.

Dolash fails to teach a photo layer.

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Mays discloses a patterned substrate that is exposed to a light source, such as ultraviolet light. This ultraviolet light darkens the volume of the photo resist layer that is coextensive with the exposed areas being darkened, i.e., become opaque to optical energy (Paragraph [0043], lines 11-15).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Mays to the teachings of Dolash such that such that unique identifiable marking can be made to distinguish the information carrier from another.

9. Claims 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Foote et al (US 4,013,894).

Re claims 10, 11 and 15: Dolash discloses that phosphorescent inks have been used in bar codes by the British Post Office .sup.4 based on the melamine-formaldehyde system. When pre-excited by a suitable light source (250 nm to 430 nm), such dyes produce a bright yellow/green afterglow from phosphorescent emission (400 nm to 600 nm) with peak emission around 500 nm that is sustained for one to several hundred milliseconds, with gradually decreasing intensity with time. By scanning and measurement of the phosphorescent emission from the bar code after appropriate time delay after the excitation light has been turned off, the background fluorescent emission from whiteners in the envelope is minimized, providing high contrast of the bar and space signals (col 10, line 65-col 11, line 10). The envelope having the phosphorescent ink is an optical scattering medium for being challenged by a light beam (the light source having 250 nm to 430 nm) and for scattering the light beam (phosphorescent emission 400nm to 600nm). The phosphorescent ink is a light absorbing mean for reducing the intensity of the light beam so that

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integration time for obtaining a response signal by integrating the light beam scattered is extended.

Dolash fails to teach comparing to a stored response signal associated with a corresponding challenge signal. Dolash also fails to teach a storage means for storing challenge signals and associated response signals for the identifier, and comparison means for comparing the obtained response signal with the stored response associated with a corresponding challenge signal.

Foote discloses a Validation Module is appropriately programmed to determine whether or not the presented document is authentic (col 5, lines 39-41). Foote discloses storing data representative of some predetermined spacial relationships between the data sets at the CPU/Validation Module. This data may be stored in accordance with the card's account number or other appropriate identifier. If desired, the spacial relationship data may be encrypted with an encryption algorithm to further enhance the security of the system. When the card is subsequently presented to the system, the magnetic and optical data read at the terminal is processed, encrypted if appropriate, and then compared with the data or code previously stored at the CPU/Validation Module. If the codes compare within predetermined limits acceptable to the system, an approval signal is sent back to the terminal to indicate that the card is authentic. On the other hand, if the generated code or data does not meet the system requirements, a corresponding signal is registered at the terminal, whereby the terminal operator may refuse to accept the card or require additional information before processing the transaction (col 5, lines 52-65).

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Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Foote to the teachings of Dolash in order to authenticate the information carrier to ensure that the carrier is authentic or is an authorized device.

Re claim 12: Dolash discloses phosphorescent dye, which is a light modulator arranged between the light source and the identifier when the information carrier is present inside the reading apparatus.

Re claim 13: The phosphorescent dye changes between dark and bright according to the exposed light as described above.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolash in view of Foote as applied to claim 12 above, and further in view of Durbin (US 5,500,516). The teachings of Dolash as modified by Foote have been discussed above.

Dolash as modified by Foote fails to teach a lens system for widening the light beam.

Durbin discloses that FIG. 7 illustrates a light source (such as shown at 51 through 54 in FIG. 2), say source 51, more generally identified as light source assembly 55, in combination with a typical molded casing 56 including a lens 57 for linearly expanding the light emitted from the source 51 in one or more directions away from its optical axis 58. (col 12, lines 54-60)

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Durbin to the teachings of Dolash as modified by Foote in order to use as few light sources as possible to reduces the cost of the device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KUMIKO C. KOYAMA whose telephone number is (571)272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Paik can be reached on 571-272-2404. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kumiko C. Koyama/
Primary Examiner, Art Unit 2887
August 21, 2009